

REMARKS

By this Amendment the specification has been amended to improve its presentation, claims 2, 5, 6, 8-12 and 20 have been amended to better define the invention, and new claim 27 has been added to alternatively define the invention. Entry is in order.

In the outstanding Office Action the examiner has rejected claims 2, 5, 6, 8-12, 20 and 26 under 35 U.S.C. §103(a) as being unpatentable over "applicant's admitted prior art as set forth in page 2 of the specification as well as figure 1 and further in view of JP 9-57,401."

The inventors assert that this rejection is without merit. In this regard, the electromagnetic brake device in JP 9-57,401 is a "vertical brake" used for applying magnetic fields to different vertical layers in a metallic flow, e.g., at the meniscus of the liquid metal and at the mouth of the discharge tube, when casting thick slabs. The mould includes flat vertical back-up plates and usually has several outer frames. The dimensions of the bloom are comparatively large, e.g., 220 X 1600 mm, which results in a large surrounding construction supporting the frame.

Horizontal brakes (as in Fig. 1 of the present application) are used for casting thin slabs where it is desired to have a magnetic field present and acting in one horizontal plane. The mechanical mould consists most often of back-up plates having a curved side for providing place for the casting tube. The dimensions for the bloom are also smaller, typically 50 x 1100 mm, resulting in smaller mechanical support constructions.

Accordingly, a person with ordinary skill in the art would not look at vertical brakes producing magnetic fields in two different vertical layers when trying to improve a horizontal brake producing a magnetic field in only one horizontal plane for providing a device for continuous or semi-continuous casting of metals having an electromagnetic brake which is easy to use with moulds of different sizes in a cost-efficient way. A person of ordinary skill in this art will consider that vertical brakes act differently and have therefore to be applied to moulds in a different way and should, due to the function thereof, be more complicated rather than simpler.

The examiner's prior art rejection should be withdrawn.

The inventors also wish to point out that no combination of JP 9-57,401 with the admitted prior art would suggest the structural details defined in claims 12, 26 and 27.

Respectfully submitted,

By:   
Richard H. Tushin  
Registration No. 27,297  
Franklin Square, Third Floor West  
1300 I Street, N.W.  
Washington, DC 20005-3353  
(202) 906-8600